

Field Evaluations of Localized Treatments for Controlling Drywood Termite Infestations in California

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SUMMARY

The list of chemical active ingredients (AIs) available in California to control drywood termite infestations is increasing. Unfortunately, efficacy information to substantiate product marketing claims is scattered and incomplete. The public's informed decision-making process is hampered without reliable efficacy information substantiating pesticide performance claims. Additionally, the public's confidence in the pest control operator (PCO) and the PCOs confidence in the pesticide manufacturer may suffer. Complicating the decision-making process are federal regulations that exempt some AIs from the pesticide registration process; those deemed food additives or essential oils. The proposed comprehensive study includes field evaluations for five currently available AIs being offered to locally treat drywood termite infestations. Infestations will be deemed active or inactive and the extent identified using X-ray and acoustic emission (AE) determination of active drywood termite feeding. All treatment applications will be conducted in collaboration with licensed PCOs in the State to add "real world" conditions to the application process. Working in tandem, the PCO and research team will identify and delimit drywood termite infestations using standard industry practice and "state of the art" inspection devices maintained in the Lewis laboratory. Dr. Lewis hypothesizes that the efficacy of any particular AI will be highly variable and greatly depend on the ability to precisely locate a drywood termite infestation and deliver the AI to the intended target.

RESEARCH OBJECTIVE

Determine the effectiveness of selected chemicals (inclusive of disodium octaborate tetrahydrate, *d*-limonene, fipronil, imidacloprid, and thiamethoxam) in controlling drywood termite infestations under field conditions.